EXPLORATORY BORING LOG

EXCELTECH

Project Name: Ultramar Station No. 700
7898 Old Redwood Highway
Cotati, California

Project Number: 3-30055-32

Boring No. MW-20
Date Drilled: 7/31/91
Logged By: N. L. Nack

Depth (ft.)	Sample No.	Blows/Foot	Unified Soil Classification	SOIL DESCRIPTION	Water Level	OVM Reading (ppm)
				4 inch asphalt, 8-9 inch agregate base		
1-2			CL	FILL-SANDY CLAY, brown (10YR 4/3) with gravel, sand ≈20%, gravel ≈30%, friable, stiff, damp		0.0
3-4		16	CL/ML	SILTY CLAY, dark brown (10YR 3/3), silt ≈40-50%, sand ≈10%, rootlets, reddish staining, soft, moist		
5-6				- increase in clay content		
7-8		26	CL	CLAY, light olive gray (5Y 6/2), silt ≈30%, sand ≈30%, sand ≈15-20%, stiff, damp to slight moist		
9-10			SM	SILTY SAND, grayish brown (2.5Y 5.2), silt ≈30-40%, fine to medium grained, subangular, mafics damp to slight moist, moderately dense		0.0
11-12			CL	CLAY, grayish brown (2.5Y 5/2), silt ≈30%, sand ≈5%, stiff, moist		11.9
13-14	20-1	31		- increasing sand content		
15-16						
17-18			SP	POORLY GRADED SAND, black, (5Y 2.5/1), medium grained, moderately dense, very moist to saturated	▼	
19-20	20-2	11	CL/ML	SLITY CLAY, dark grayish brown (2.5Y 4/2) silt ≈30-40%, sand ≈5%, rootholes, gray clay films, stiff, moist		412
21			SP/SW		▽	

REVIEWED BY R.G./C.E.G. CEG 1262

BE022560

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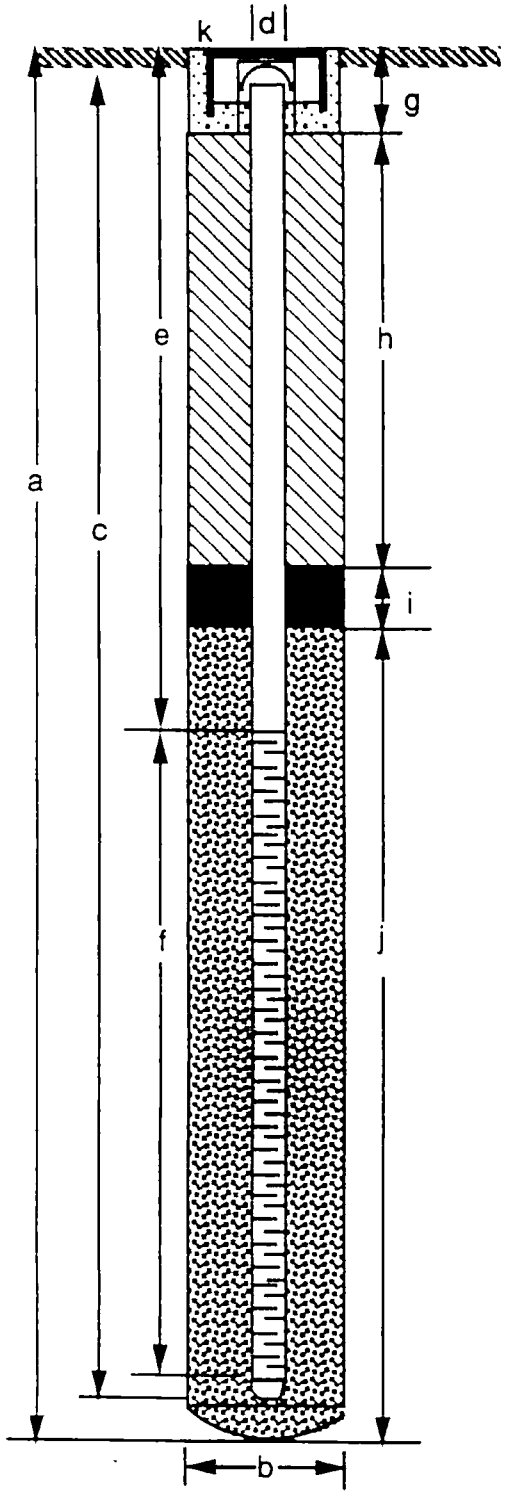
22			SP/SW	POORLY GRADED SAND, very dark gray (2.5YN 3/3), medium grained with pockets of well graded sand, loose, saturated		
23	20-3	22				
24						33
25			CL/ML	SILTY CLAY, olive brown (2.5Y 4/4), silt ≈40-50%, sand≈5%, medium stiff, very moist		
26						
27			SM	SILTY SAND, dark grayish brown (2.5Y 4/2), silt ≈40%, clay ≈10-20%, pockets of poorly graded sand, moderately dense, saturated		
28						0.0
29		22	CL/ML	SILTY CLAY, olive brown (2.5Y 4.4) silt ≈30-40%, sand ≈15%, soft, pockets of poorly graded sand, saturated		
30				- 4-6 inch thick interbeds of poorly graded sand, clayey/silty clay		
31						
32						
33		27				
34			CH	CLAY, block (5Y 2.5/1), silt ≈30%, slicks, damp, to slightly moist very stiff		0.0
35						
36						
37						
38		14	SC	CLAYEY SAND, black (5YL 5.1) clay ≈15%, dense, very moist		
39			CL/CH	CLAY, black (5Y 2.5/1) sand ≈20%, silt ≈30%, soft, moist		
40						
41		26				0.0
42				Bottom of Boring 41-1/2 feet Groundwater encountered at 20 feet		

REVIEWED BY R.G./C.E.G. [illegible]

EXCELTECH

MONITORING WELL DETAIL

Project Number	3-30055-32	**Boring/Well No.**	MW-20
Project Name	Ultramar Station No. 700	**Top of Casing Elev.**	105.91
County	Sonoma	**Ground Surface Elev.**	106.36
Well Permit No.	91-0183-HMW	**Datum**	Mean Sea Level



EXPLORATORY BORING

a. **Total depth** 41 1/2 ft.

b. **Diameter** 8 in.

Drilling method Hollow stem auger

WELL CONSTRUCTION

c. **Casing length** 33 1/2 ft.

Material Schedule 40 PVC

d. **Diameter** 2 in.

e. **Depth to top perforations** 20 ft.

f. **Perforated length** 13 1/2 ft.

Perforated interval from 20 **to** 33 1/2 ft.

Perforation type Slot

Perforation size 0.02 in.

g. **Surface seal** 1 ft.

Seal material Concrete

h. **Backfill** 15 ft.

Backfill material Cement

i. **Seal** 2 1/2 ft.

Seal material Bentonite Pellets

j. **Gravel pack** 15-1/2 ft.

Pack material 2/12 sand

k. Water tight traffic rated vault box

Note: Hole caved bottom 2 feet.
Material, packed by driller.
Bentonite seal 4 feet.

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